

## Spectroscopic Dosimeter, Phase II

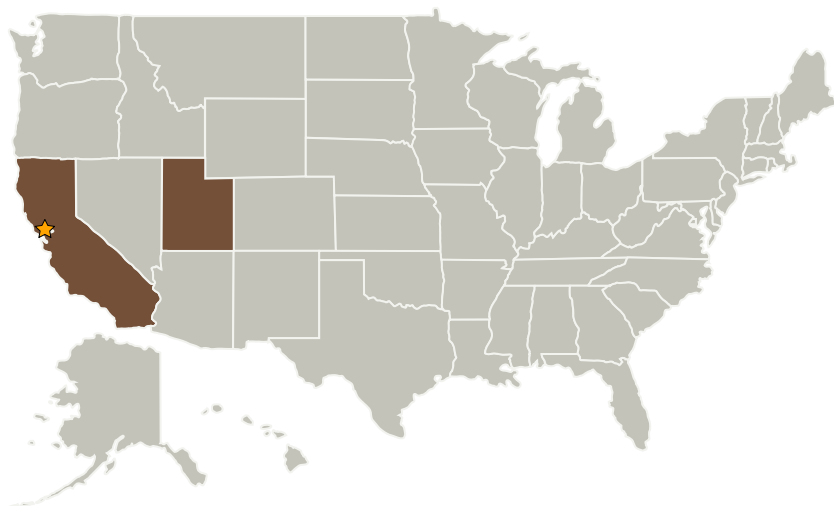
Completed Technology Project (2009 - 2011)



## Project Introduction

Analysis of Phase I test data demonstrates that the Photogenics Spectroscopic Dosimeter will detect neutron energies from 0.8 up to 600 MeV. The detector efficiencies in the energy region of interest to NASA of 0.5 to 150 MeV were predicted by MCNP-X models. These models were partially confirmed by the tests at the EAL and LANSCE, with a high confidence in the data for the 1-14 MeV range and a confirmation of the detector's spectroscopic capabilities between 15-150 MeV. Further analysis of the high energy data will be performed in Phase II. Using the detection efficiencies determined Phase I and the IRCP74 damage coefficients, doses have been calculated for the neutron fluxes encountered in the test facilities. During Phase II a full-scale working model of the spectroscopic dosimeter will be fabricated and tested.

## Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★ Ames Research Center(ARC)	Lead Organization	NASA Center	Moffett Field, California
Merril Corporation of Utah, dba MSI Photogenics	Supporting Organization	Industry	Salt Lake City, Utah



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## Organizational Responsibility

**Responsible Mission Directorate:**

Space Technology Mission Directorate (STMD)

**Lead Center / Facility:**

Ames Research Center (ARC)

**Responsible Program:**

Small Business Innovation Research/Small Business Tech Transfer

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### Primary U.S. Work Locations

California

Utah

### Project Transitions



**February 2009:** Project Start



**January 2011:** Closed out

### Project Management

#### Program Director:

Jason L Kessler

#### Program Manager:

Carlos Torrez

### Technology Areas

#### Primary:

- TX09 Entry, Descent, and Landing
  - └ TX09.4 Vehicle Systems
    - └ TX09.4.5 Modeling and Simulation for EDL